PATENT APPLICATION
Attorney Docket No. D/99606

1 of 3

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1/31/02
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Edward L. Schlueter, Jr. et al.

Application for Patent

Application No.: 09/344,863 **Examiner:** S. Hon

Filed: June 28, 1999 **Group Art Unit:** 1772

Title: Polythiophene Xerographic Component Coatings

APPELLANT'S BRIEF ON APPEAL

CERTIFICATE OF EXPRESS MAILING

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Kathleen Schirtz Date: January 16, 2002
Kathleen Schirtz

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1. TABLE OF CASES

2. Real Party of Interest

Xerox Corporation.

3. Related Appeals and Interferences

No other Appeals or Interferences are known to Appellants, Appellant's Legal Representative, or the Assignee which will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending Appeal.

4. Status of Claims

Claim 26 is withdrawn from consideration.
Claims 2, 3, 16, and 20 are cancelled.
Claims 1, 4-15, 17-19, and 21-25 are rejected.

5. Status of Amendments

Appellant's Amendment after Final Rejection under 37 C.F.R. §1.116 dated September 26, 2001, was considered and entered but did not overcome the outstanding rejections.

6. Summary of Invention

Appellant's invention is directed to, in embodiments, a xerographic belt component having a substrate comprising a polymer selected from the group consisting of fluoropolymers, chloropolymers, silicone rubbers, polyarylenes, ethylene diene propene monomer, nitrile rubbers and mixtures thereof, and having on the substrate, a coating comprising a thiophene-based material (present application [hereinafter "pa"] pg. 1, lines 1-13, pg. 17, lines 6-18; claim 1). In embodiments, the substrate comprises a fluoropolymer selected from the group consisting of i) copolymers of vinylidene fluoride, hexafluoropropylene and tetrafluoroethylene; ii) terpolymers of vinylidene fluoride, hexafluoropropylene and tetrafluoroethylene; and iii) tetrapolymers of vinylidene fluoride, hexafluoropropylene, tetrafluoroethylene, and a cure site monomer (pa. 18, lines 17-20; claims 4 and 24).

7. Issues

A. Whether claims 1, 4-14, 17-19, and 21-25 are unpatentable under 35 U.S.C. §103(a) over Tarumi et al. (U.S. Patent 4,827,868) in view of Jonas et al. (U.S. Patent 5,766,515) and Newkirk (U.S. Patent 4,375,505).

8. Grouping of Claims

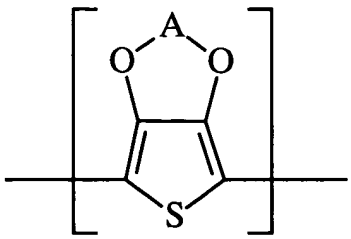
I. Claims 1, 4-14, 17-19, and 21-25 stand or fall together.

9. Argument

Referring to Figures 1 through 10 and pages 6-22 of the application, there are demonstrated embodiments of the present invention.

a. The claimed elements include a xerographic belt component having a substrate comprising a polymer selected from the group consisting of fluoropolymers, chloropolymers, silicone rubbers, polyarylenes, ethylene diene propene monomer, nitrile rubbers and mixtures thereof, and having on the substrate, a coating comprising a thiophene-based material (present application [hereinafter "pa"] pg. 1, lines 1-13, pg. 17, lines 6-18; claim 1).

b. In embodiments, the thiophene-based material has the following formula I:



wherein A is an optionally substituted C_1-C_4 alkylene radical (pa. 13, lines 19-24; claim 5). In other embodiments, the optionally substituted C_1-C_4 alkylene radical is selected from the group consisting of a methylene radical, alkyl-substituted methylene radical, 1,2-ethylene radical, 1,2-ethylene radical substituted by C_1-C_{12}-alkyl, 1,2-ethylene radical substituted by phenyl, and a 1,2-cyclohexylene radical (pa. 13, line 24 - pa. 14, line 8; claim 6). In embodiments, the thiophene-based material is a polyethylene dioxythiophene (pa. 14, lines 11-12; claim 7). In other embodiments, the thiophene-based material is 3,4 polyethylenedioxythiophene (pa. 14, lines 8-9; claim 8).

c. In embodiments, the substrate belt component comprises a fluoropolymer selected from the group consisting of i) copolymers of vinylidene fluoride, hexafluoropropylene and tetrafluoroethylene; ii) terpolymers of vinylidene fluoride, hexafluoropropylene and tetrafluoroethylene; and iii) tetrapolymers of vinylidene fluoride, hexafluoropropylene, tetrafluoroethylene, and a cure site monomer (pa. 18, lines 17-20; claims 4 and 24). In embodiments, the substrate is a fluoropolymer and the polythiophene-based material is 3,4 polyethylenedioxythiophene (pa. 14, lines 8-9; pa. 18, lines 17-20; claim 25).

d. In embodiments, the xerographic belt component further comprises an intermediate layer positioned between the substrate and the thiophene-based material coating (pa. 18, lines 1-2; claim 9). The intermediate layer may comprise a polymer (pa. 18, lines 2-8; claim 10). The polymer for the intermediate layer may be selected from the group consisting of fluoropolymers, chloropolymers, silicone rubbers, polyimides, polyamides, polypropylenes, polyethylenes, polybutylenes, polyarylenes, acrylonitriles, polycarbonates, polysulfones, ethylene diene propene monomer, nitrile rubbers and mixtures thereof (pa. 18, lines 2-8; claim 11).

e. In embodiments, the xerographic belt component may comprise an outer coating on the thiophene-based material coating (pa. 20, lines 12-14; claim 12). In embodiments, the outer coating comprises a polymer (pa. 20, lines 17-19; pa. 18, line 1-pa. 19, line 18; claim 13). In embodiments, the thiophene-based material coating is an adhesive (pa. 20, lines 12-14; claim 14). In embodiments, the thiophene-based adhesive comprises polystyrene sulfonic acid (pa. 20, lines 20-22; claim 15).

f. In embodiments, the xerographic belt component is capable of receiving a bias (pa. 9, line 24-pa. 11, line 14; claims 17 and 21).

g. In embodiments, the xerographic belt component is an intermediate transfer belt (pa. 12, line 22-pa. 13, line 7; claims 18 and 22).

h. In embodiments, the xerographic belt component has a heating element associated with the substrate (pa. 11, line 15-pa.12, line 21; claims 19 and 23).

A. Whether claims 1, 4-14, 17-19, and 21-25 are unpatentable under 35 U.S.C. §103(a) over Tarumi et al. (U.S. Patent 4,827,868) in view of Jonas et al. (U.S. Patent 5,766,515) and Newkirk (U.S. Patent 4,375,505).

As a preliminary matter, Appellants point out errors in claims 21-23 made in prosecution. Claims 1 and 24 were amended to recite a xerographic belt component (Amendment, 12/19/2000). Claims 21-23 were subsequently amended to depend from claim 1 after claim 20, from which they previously depended, was cancelled (Amendment, 4/23/01 and Amendment, 12/19/2000). Claim 21 is now a duplicate of claim 17. Claim 21 should have been cancelled during prosecution. Claim 22 now claims a roller. However, claim 22 is dependent on claim 1, which claims a belt component. Claim 22 should have been cancelled. Claim 23 claims a hollow cylinder. However, claim 23 is dependent on claim 1, which claims a belt component. Claim 23 should have been cancelled in prosecution.

Claims 1, 4-14, 17-19, and 21-25 have been rejected under 35 U.S.C. §103 as obvious over Tarumi et al. in view of Jonas et al. and Newkirk.

Tarumi et al. relates to a toner carrier member or intermediate transfer member (Tarumi et al., Abstract). Tarumi et al. teaches a metal substrate or shaft, and does not teach the elements of the claims. Specifically, Tarumi et al. teaches a toner carrier 100 consisting of a rotating shaft 110, an elastic layer 120, a thin resin cylinder 130, a conductive layer 140 and a toner carrying layer 140, which all surround the rotating shaft 110 in this order (Tarumi et al. col. 3, lines 36-43; Figures 1 and 2). Tarumi teaches that a metal shaft is preferable for the conductive rotating shaft 110 (Tarumi et al., col. 4, lines 28-29; col. 5, line 12). In another embodiment, a rotating shaft 220 has various layers formed thereon (Tarumi et al., col. 5, lines 22-20; Figures 3-5). Again, Tarumi et al. teaches a metal shaft 220. Therefore, Tarumi et al. does not teach the substrate materials as claimed, including fluoropolymers, chloropolymers, silicone rubbers, polyarylenes, ethylene diene propene monomers, nitrile rubbers, and mixtures thereof.

The Examiner states that Tarumi et al. teaches a fluororesin substrate (Office Action [hereinafter "OA"], 7/17/01, pg. 2, para. 2(b)). The Examiner refers Appellants to column 3, lines 65-68 of Tarumi et al. (OA, 7/17/01, pg. 2, para. 2(b)). However, this section of Tarumi et al. refers to a fluororesin being used as an outer layer 150 of the toner carrier embodiment depicted in Figure 1 of the reference. Therefore, Tarumi et al. does not teach a fluororesin substrate.

In addition, Tarumi et al. does not teach or suggest use of a thiophene-based material as a coating. Tarumi teaches various outer layers including nickel and other metals, and materials such as polyester, polycarbonate, fluororesin, silicone rubber, foam rubber, polyethylene terephthalate, polyurethane resin, polycarbonate resin and epoxy resins (Tarumi et al, col. 4, lines 15-16; lines 30-32; col. 5, lines 61-62; lines 64-66).

Jonas et al. is relied upon as teaching a thiophene-based material. Jonas et al. relates to thiophene-based materials useful for coating electrodes in the electrical arts and for use in picture production, including electrophotography (Jonas, col. 3, lines 5-15).

Newkirk relates to a fuser member coatings and is relied upon for teaching the claimed fluoropolymer materials (Newkirk, col. 2, lines 26-34). However, Newkirk does not teach that these fluoropolymer materials can be used as a substrate as claimed. Instead, Newkirk teaches that the fluoropolymer materials are useful as the outer layer of the fuser member (Newkirk, Abstract).

Appellants submit that a *prima facia* case of obviousness has not been met.

To establish a *prima facia* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success.

Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Appellant's disclosure. *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991). MPEP §706.02(j).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. *In re* Geiger, 2 USPQ2d 1276 (Fed. Cir. 1987); *In re* Fine, 5 USPQ2d 1596 (Fed. Cir. 1988). A piecemeal reconstruction of the prior art patents in light of Appellant's disclosure is not a basis for a holding of obviousness. *In re Kamm et al.*, 172 USPQ 298 (CCPA 1972). The mere fact that the prior art devices could have been modified does not make the modification obvious unless the prior art suggested the desirability to such a modification. *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984); *Jones v. Hardy*, 220 USPQ 1021 (Fed. Cir. 1984).

a) There is no motivation to combine the references

i) The references relate to different apparatii

Appellants submit that one of ordinary skill would not have been motivated to combine the references because the references relate to completely different apparatii. Tarumi et al. teaches toner carriers or intermediate transfer members (Tarumi et al., Abstract), whereas Jonas et al. relates to conductive polythiophene formulations for electrodes in electroluminescent displays or for solid capacitors, and for picture production such as silver halide photography dry-plate systems and electrophotography (Jonas, col. 3, lines 5-15). Newkirk relates to fuser members (Newkirk, Abstract). Appellants submit that one of ordinary skill in the art would not have been motivated to combine the teachings of references teaching such unrelated apparatii.

ii) The combination requires substitution of layers

Appellants further submit that one of ordinary skill would not have been motivated to combine the layers taught by Jonas et al. and Newkirk with the toner carrier as taught by Tarumi et al. because there is no motivation to substitute layers taught for different uses.

Specifically, the present claims recite a substrate comprising a polymer selected from the group consisting of fluoropolymers, chloropolymers, silicone rubbers, polyarylenes, ethylene diene propene monomer, nitrile rubbers and mixtures thereof (claim 1). Tarumi et al. teaches a metal shaft as the substrate (Tarumi et al. col. 3, lines 36-43; Figures 1 and 2; col. 4, lines 28-29; col. 5, line 12; col. 5, lines 22-20; Figures 3-5). Tarumi et al. does not teach a fluororesin substrate as argued by the Examiner (OA, 7/17/01, pg. 2, para. 2(b). The section referred to by the Examiner teaches a fluororesin being used as an outer layer 150 of the toner carrier embodiment depicted in Figure 1 of the reference (Tarumi et al., col. 3, lines 65-68). Therefore, Tarumi et al. does not teach a fluororesin substrate. Newkirk also teaches a metal shaft or glass substrate (Newkirk, col. 4, lines 11-13). Newkirk teaches fluoropolymer outer layers for a fuser member (Newkirk, col.2, lines 26-34, Abstract). Appellants submit that one of ordinary skill in the art would not have been motivated to substitute the fluoropolymer materials taught as outer layers for a fuser member by Newkirk, for a toner carrier metal shaft as taught by Tarumi et al.

Appellants submit that the present claims are directed to a belt component. Tarumi et al. mentions at col. 7, lines 34-36, that the roller can be formed into a belt shape. However, Tarumi et al. does not teach or suggest any substrate materials that can be used for the belt. Newkirk teaches that the fuser member can be in the form of a belt (Newkirk, col. 10, line 67). However, Newkirk teaches that the fuser belt substrate is a heat conductive material such as metal (Newkirk, col. 11, lines 1-3). Although a fluoropolymer is taught for use with the belt configuration, in Newkirk, it is taught as an outer layer for the belt, and not as a belt substrate as claimed (Newkirk, col. 11, lines 5-10). Appellants submit that the teachings of these two references related to the belt configurations

would not have motivated one of skill to use a fluoropolymer as taught for use as an outer layer for a belt in Newkirk, as a belt substrate in Tarumi et al.

The Examiner states that the motivation for substituting the fluoropolymer materials is because Newkirk teaches that the elastomeric fluoropolymer resists degradation at high temperatures as well as absorption of fuser oil providing the advantage and motivation to use the fluoropolymer in the belt of Tarumi et al. (Advisory Action [hereinafter "AA"] 10/26/01, pg. 3, lines 1-7). Appellants submit that the teaching of Newkirk at col. 4, lines 13-25 referred to by the Examiner is not a motivation to use the fluoropolymer as a substrate material. The teaching may be a motivation to use the layer as an outer layer of a fuser member for resisting degradation, but is not a motivation to use the layer as a substrate member. Further, the teaching of the fluoropolymer outer layer as resisting fuser oil absorption would not have motivated one of skill to substitute this layer for a substrate in the toner carrier or intermediate transfer member of Tarumi et al. Fuser oil is used with a fuser member and not with a toner carrier member or intermediate transfer member.

Turning to Jonas et al., this reference relates to thiophene-based materials useful for coating electrodes in the electrical arts and for use in picture production including electrophotography (Jonas et al., col. 3, lines 5-15). Tarumi et al. relates to toner carrier or intermediate transfer member coatings (Tarumi et al., Abstract). Appellants submit that one of ordinary skill in the art would not have been motivated to use the materials as taught by Jonas et al. as a coating in the electrical arts and for picture production, as a coating for the toner carrier of Tarumi et al.

In addition, Appellants submit that one of ordinary skill would not have been motivated to use a polythiophene coating as taught by Jonas et al. in combination with a fluoropolymer as taught by Newkirk, absent some teaching or suggestion that the two layers should be combined in a xerographic component belt as claimed. The Examiner states that the motivation for combining the layers is because Tarumi et al. teaches that the conductive layer 140 has good electrical conductivity, and Jonas et al. teaches that the polythiophene layer has good electrical conductivity (AA., 10/26/01, pg. 2, para. 2; pg. 3, para. 3). The teaching of Tarumi et al. at column 3, lines 44-48 pointed out to by the Examiner, teaches that the layer can be used as an opposite electrode to control an image by applying a proper bias voltage between the conductive layer 140 and the electrode of the photosensitive member (Tarumi et al., col. 3, lines 44-49). This teaching would not have motivated one of ordinary skill to use a fluoropolymer fuser member coating of Newkirk with the polythiophene coating of Jonas et al. A fuser member does not have a bias associated with it. Accordingly, Appellants submit that this teaching would not have supplied the motivation to use a fuser member coating in combination with an electrode coating.

To make such drastic changes to each of the references and end up with the claimed combination of layers in a belt component could only be achieved in hindsight.

Accordingly, Appellants submit that one of ordinary skill would not have been motivated to combine the references cited.

b) There would have been no reasonable expectation of success

Appellants further submit that one of ordinary skill would not have been motivated to combine the layers taught by Jonas et al. and Newkirk with the toner carrier as taught by Tarumi et al. because there would have been no reasonable expectation that the materials taught by Jonas et al. and Newkirk et al. would work in the toner carrier or intermediate transfer member of Tarumi et al.

i) The references relate to different apparatii

Appellants submit that because the references all relate to different apparatii, there would have been no expectation of success that the layers of one apparatus would work well with the layers of completely different apparatii. Specifically, Tarumi et al. teaches toner carriers or intermediate transfer members (Tarumi et al., Abstract), whereas Jonas et al. relates to conductive polythiophene

formulations for electrodes in electroluminescent displays or for solid capacitors, and for picture production such as silver halide photography dry-plate systems and electrophotography (Jonas, col. 3, lines 5-15). Newkirk relates to fuser members (Newkirk, Abstract). Appellants submit there would have been no expectation of success that the layers of one apparatus would work well when substituted for layers of another apparatus.

ii) The combination requires substitution of layers

Appellants further submit that there would have been no expectation that the layers taught as useful as outer layers, would work as substrate materials. Specifically, Tarumi et al. teaches a metal shaft as the substrate (Tarumi et al. col. 3, lines 36-43; Figures 1 and 2; col. 4, lines 28-29; col. 5, line 12; col. 5, lines 22-20; Figures 3-5). Tarumi et al. does not teach a fluororesin substrate as argued by the Examiner (OA, 7/17/01, pg. 2, para. 2(b)). The section referred to by the Examiner teaches a fluororesin being used as an outer layer 150 of the toner carrier embodiment depicted in Figure 1 of the reference (Tarumi et al., col. 3, lines 65-68). Therefore, Tarumi et al. does not teach a fluororesin substrate. Newkirk also teaches a metal shaft or glass substrate (Newkirk, col. 4, lines 11-13). Newkirk teaches fluoropolymer outer layers for a fuser member (Newkirk, col.2, lines 26-34, Abstract). Appellants submit that there would have been no expectation of success that the fluoropolymer materials taught as outer layers for a fuser member by Newkirk would work with the toner carrier metal shaft of Tarumi et al.

Further, there would have been no expectation that the layers taught by the various references would work well in a belt component. Tarumi et al. mentions at col. 7, lines 34-36, that the roller can be formed into a belt shape. However, Tarumi et al. does not teach or suggest any substrate materials that can be used for the belt. Newkirk teaches that the fuser member can be in the form of a belt (Newkirk, col. 10, line 67). However, Newkirk teaches that the fuser belt substrate is a heat conductive material such as metal (Newkirk, col. 11, lines 1-3). Although a fluoropolymer is taught for use with the belt configuration, it is taught as an outer layer for the belt, and not as a belt substrate as claimed. Appellants submit that there would have been no expectation of success that a fluoropolymer taught as useful as an outer fuser member layer in Newkirk, would work well as the belt substrate of Tarumi et al.

Turning to Jonas et al., this reference relates to thiophene-based materials useful for coating electrodes in the electrical arts and for use in picture production including electrophotography (Jonas et al., col. 3, lines 5-15). Tarumi et al. relates to toner carrier or intermediate transfer member coatings (Tarumi et al., Abstract). Appellants submit there would have been no expectation of success that the materials as taught by Jonas et al. as a coating in the electrical arts and for picture production, would work well as a coating for a toner carrier as taught by Tarumi et al.

Accordingly, Appellants submit that there would not have been an expectation of success for the combination of layers from different apparatii.

c) The combination does not teach all claimed elements

Assuming, *arguendo*, that the combination was made, the resulting disclosure does not include all the elements of the claimed invention. Specifically, none of the references teach, alone or in combination, the substrate materials for use as a substrate in a xerographic belt component as claimed.

Tarumi et al. teaches a metal substrate or shaft (Tarumi et al. col. 3, lines 36-43; Figures 1 and 2; col. 4, lines 28-29; col. 5, line 12; col. 5, lines 22-20; Figures 3-5). Therefore, Tarumi et al. does not teach the substrate materials as claimed, including fluoropolymers, chloropolymers, silicone rubbers, polyarylenes, ethylene diene propene monomers, nitrile rubbers, and mixtures thereof.

The Examiner states that Tarumi et al. teaches a fluororesin substrate (OA, 7/17/01, pg. 2, para. 2(b). The Examiner refers Appellants to column 3, lines 65-68 of Tarumi et al. (Office Action

[hereinafter "OA"], 7/17/01, pg. 2, para. 2(b). However, this section of Tarumi et al. refers to a fluororesin being used as an outer layer 150 of the toner carrier embodiment depicted in Figure 1 of the reference. Therefore, Tarumi et al. does not teach a fluororesin substrate.

In addition, Jonas et al. does not teach or suggest the claimed substrate materials.

Moreover, Newkirk does not teach or suggest the claimed materials used as a substrate for a xerographic belt component. Newkirk relates to fuser member coatings and is relied upon for teaching the claimed fluoropolymer materials (Newkirk, col. 2, lines 26-34). However, Newkirk does not teach that these fluoropolymer materials can be used as a substrate as claimed. Instead, Newkirk teaches that the fluoropolymer materials are useful as the outer layer of the fuser member (Newkirk, Abstract).

Accordingly, none of the references, alone or in combination, teach or suggest the claimed substrate materials in a xerographic component belt.

In view of all of the above arguments, Appellants request that the Board override the Examiner's rejection of claims 1, 4-14, 17-19, and 21-25 under 35 U.S.C. §103(a) as obvious over Tarumi et al. (U.S. Patent 4,827,868) in view of Jonas et al. (U.S. Patent 5,766,515) and Newkirk (U.S. Patent 4,375,505).

B. Summary

In summary, Appellants submit that claims 1, 4-14, 17-19, and 21-25 are not unpatentable under 35 U.S.C. §103(a) as obvious over Tarumi et al. (U.S. Patent 4,827,868) in view of Jonas et al. (U.S. Patent 5,766,515) and Newkirk (U.S. Patent 4,375,505).

Appellants submit that because the references related to diverse apparatii, and because the combination requires a substitution of layers in a different order as taught, one of ordinary skill would not have been motivated to combine the references cited.

Appellants further submit that because the references relate to diverse apparatii, and because the combination requires a substitution of layers in a different order as taught, there would have been no expectation of success.

Appellants additionally submit that none of the references alone or in combination, teach or suggest the claimed substrate materials in a xerographic component belt.

For the reasons set forth herein, Appellants are of the position that the claims of the present application are patentable, and accordingly respectfully request that the Board of Patent Appeals and Interferences reverse the Examiner's rejections of the claims.

Respectfully submitted,

Annette L. Bade
Reg. No. 37,029

10. APPENDIX

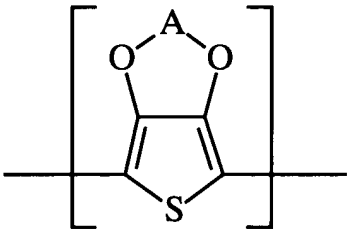
1. A xerographic belt component comprising:

a) a substrate comprising a polymer selected from the group consisting of fluoropolymers, chloropolymers, silicone rubbers, polyarylenes, ethylene diene propene monomer, nitrile rubbers and mixtures thereof, and thereon

b) a coating comprising a thiophene-based material.

4. A xerographic component as claimed in claim 1, wherein said fluoropolymer is selected from the group consisting of a) copolymers of vinylidenefluoride, hexafluoropropylene and tetrafluoroethylene; b) terpolymers of vinylidenefluoride, hexafluoropropylene and tetrafluoroethylene; and c) and tetrapolymers of vinylidenefluoride, hexafluoropropylene and tetrafluoroethylene and a cure site monomer.

5. A xerographic component as claimed in claim 1, wherein said thiophene-based material has the following formula I:



wherein A is an optionally substituted C_1-C_4 alkylene radical.

6. A xerographic component as claimed in claim 5, wherein said optionally substituted C_1-C_4 alkylene radical is selected from the group consisting of a methylene radical, alkyl-substituted methylene radical, 1,2-ethylene radical, 1,2-ethylene radical substituted by C_1-C_{12}-alkyl, 1,2-ethylene radical substituted by phenyl, and a 1,2-cyclohexylene radical.

7. A xerographic component as claimed in claim 6, wherein said thiophene-based material is a polyethylene dioxythiophene.

8. A xerographic component as claimed in claim 7, wherein said thiophene-based material is 3,4 polyethylenedioxythiophene.

9. A xerographic component as claimed in claim 1, wherein said xerographic component further comprises an intermediate layer positioned between said substrate and said thiophene-based material coating.

10. A xerographic component as claimed in claim 9, wherein said intermediate layer comprises a polymer.

11. A xerographic component as claimed in claim 10, wherein said polymer is selected from the group consisting of fluoropolymers, chloropolymers, silicone rubbers, polyimides, polyamides, polypropylenes, polyethylenes, polybutylenes, polyarylenes, acrylonitriles, polycarbonates, polysulfones, ethylene diene propene monomer, nitrile rubbers and mixtures thereof.

12. A xerographic component as claimed in claim 1, wherein said component further comprises an outer coating on said thiophene-based material coating.

13. A xerographic component as claimed in claim 12, wherein said outer coating comprises a polymer.

14. A xerographic component as claimed in claim 12, wherein said thiophene-based material coating is an adhesive.

15. A xerographic component as claimed in claim 14, wherein said adhesive further comprises polystyrene sulfonic acid.

17. A xerographic component as claimed in claim 1, wherein said xerographic component is capable of receiving a bias.

18. A xerographic component as claimed in claim 1, wherein said xerographic component is an intermediate transfer belt.

19. A xerographic component as claimed in claim 1, wherein said xerographic component further comprises a heating element associated with said substrate.

21. A xerographic component as claimed in claim 1, wherein said xerographic component is capable of receiving a bias.

22. A xerographic component as claimed in claim 1, wherein said xerographic component is an intermediate transfer roll.

23. A xerographic component as claimed in claim 1, wherein said xerographic component further comprises a heating element associated with said hollow cylinder.

24. A xerographic belt component comprising:

a) a substrate comprising a fluoropolymer selected from the group consisting of i) copolymers of vinylidenefluoride, hexafluoropropylene and tetrafluoroethylene; ii) terpolymers of vinylidenefluoride, hexafluoropropylene and tetrafluoroethylene; and iii) tetrapolymers of vinylidenefluoride, hexafluoropropylene, tetrafluoroethylene, and a cure site monomer; and thereon

b) a coating comprising a thiophene-based material.

25. A xerographic component as claimed in claim 24, wherein said thiophene-based material is 3,4 polyethylenedioxythiophene.

26. An image forming apparatus for forming images on a recording medium comprising:

a charge-retentive surface to receive an electrostatic latent image thereon;

a biasable component capable of receiving an electrical bias for charging one of a xerographic component or copy substrate surface;

a development component to apply toner to said charge-retentive surface to develop said electrostatic latent image to form a developed image on said charge retentive surface;

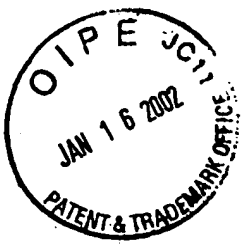
a transfer component to transfer the developed image from said charge retentive surface to a copy substrate; and

a fuser component for fusing said developed image to a surface of said copy substrate, wherein at least one of said biasable component, transfer component and said fuser component comprise:

a) a belt substrate comprising a polymer selected from the group consisting of fluoropolymers, chloropolymers, silicone rubbers, polyarylenes, ethylene diene propene monomer, nitrile rubbers and mixtures thereof; and thereon

b) a coating comprising a thiophene-based material.

PATENT APPLICATION
Attorney Docket No. **D/99006**



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application of: Edward L. Schlueter, Jr. et. al

Application No.: 09/344,863

Filed: June 28, 1999

Art Unit: 1772

Examiner: S. Hon

Title: **POLYTHIOPHENE XEROGRAPHIC COMPONENT COATINGS**

LETTER

Commissioner for Patents
Washington, D.C. 20231

Sir:

Enclosed herewith is an original and two copies of Appellant's Brief on Appeal in the above-identified application.

Please charge any fees associated with the filing of the Brief on Appeal to Xerox Deposit Account No. 24-0025. *Duplicate copies of this sheet are enclosed.*

Respectfully submitted,

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El Segundo, California
Date: January 16, 2002